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Indian Standard

CODE FOR HYGIENIC PRACTICES FOR UNITS FOR PROCESSING AND HANDLING OF QUICK FROZEN FOODS

UDC 664·8·037·5 : 613·2 : 006·76

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

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Price Group 5

Food Hygiene Sectional Committee, FAD 45

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Food Hygiene Sectional Committee had been approved by the Food and Agriculture Division Council.

Customers do not have the available knowledge or means of determining the hygienic quality of the food they purchase. For this, they rely on the hygienic standards of various industries that prepare and handle foods. Unless the factory producing the food is governed by a strict hygienic code in respect of layout, plant and personnel, the quality of food produced cannot be considered as safe.

This code is an adjunct to IS 2491 : 1972 'Code for hygienic conditions for food processing units (*first revision*)' and it covers requirements specific to the units for processing and handling of quick frozen foods.

This code is subject to the provisions of the *Factories Act,* 1948 and the *Prevention of Food Adulteration Act,* 1954 and the Rules framed thereunder and the *Fruit Products Order, 1955* amended up to date.

In the preparation of this code, considerable assistance has been derived from the Recommended International Code of Practice for the Processing and Handling of Quick Frozen Foods CAC/RCP 8-1976 published by Codex Alimentarius Commission.

The basic principles of hygiene underlining the technical advice in this code should be applied with appropriate modifications to all types of quick frozen foods.

Indian Standard

CODE FOR HYGIENIC PRACTICES FOR UNITS FOR PROCESSING AND HANDLING OF QUICK FROZEN FOODS

1 SCOPE

1.1 This code prescribes hygienic conditions and practices required for establishing and maintaining units for processing and handling of quick frozen food products.

2 REFERENCES

The Indian Standards listed in Annex A are necessary adjuncts to this Standard.

3 PLANT CONSTRUCTION AND FACILITIES

3.1 Site

3.1.1 Units for processing and handling of quick frozen foods shall preferably be situated in open, clean and healthy surroundings which will not contribute dangerous micro-organism and foreign matter. The units shall be free from sources of obnoxious fumes, smoke, odours or excessive dust. There shall not be accumulation of trash, garbage or similar waste in the vicinity of the unit.

3.2 Building

3.2.1 The structure shall be of permanent nature and shall be suitable in size, construction and design to facilitate maintenance and hygienic operations for processing purposes. It should provide sufficient space for housing of equipment and storage of materials as is necessary for hygienic operations. The material of construction shall be of bricks, plaster, cement, concrete, tiles or any other equivalent materials which ensure cleanliness.

3.2.1.1 Construction of the building shall be such that it shall be rodentproof, flyproof and birdproof.

3.2.2 No portion of building shall be used for domestic purposes or other types of food preparations unless separated by suitable partitions or locations or other effective means so as to avoid contamination of the product with undesirable micro-organisms, odour, chemicals, filth or other foreign material.

3.2.3 Areas where raw materials are received or stored should be so separate from areas in which final product preparation is conducted as to preclude contamination of finished product. Areas and compartments used for storage, manufacture or handling of edible products should be separate and distinct from those used for inedible material.

3.3 Ventilation and Lighting

The premises shall be adequately lighted and ventilated. Light bulbs and fixtures suspended in the processing area shall be of safety type and shall not be fixed above the processing table, to prevent contamination of food in case of breakage. Ventilation and lighting shall also be in accordance with the Factories Act, 1948 [*see also* IS 3103 : 1975 and IS 3646 (Parts 1, 2 and 3) : 1966]. Exhaust fans should be provided where necessary.

3.4 Floor

The floor shall be smooth, free from crevices, washable, properly sloped to gullies connected to sewers or drains. It shall be impervious to water and not affected by steam, weak acids or alkalies. Cemented floor shall be made for work room, store room and godown.

3.5 Walls and Ceilings

Internal walls and ceilings should have smooth, non-absorbent light-coloured surface, free from crevices and sharp angles, to facilitate their efficient cleaning. The junction of the floor with the walls and the junction between the two walls should be rounded to prevent accumulation of dust.

3.6 Repairs

The building shall be maintained in a proper state of repair and cleanliness at all times. Whenever required, it may be lime washed, painted, disinfected, disinfested and deodorized.

3.7 Drainage

Effective drainage should be provided to drain off a large quantity of water used for washing the raw material, machinery, equipment, tables, floor, etc; 15 to 30 cm half circular drains with glazed pipe at the bottom should be provided. The slope of the floor should be towards the drains and the farthest end of the floor from the drains should not be more than 5 m. The drain openings should be provided with screen traps to prevent solid matter from clogging the drains. The ends of the drains leading to the outside of the factory should be made rodent-proof by providing screens. The screens shall be examined periodically and replaced or cleaned, if necessary. The drains should have water seals of minimum 5 cm dia. At least 50 percent of the length of the drain should be covered to facilitate the movement of trolleys. Mesh type cover for the drain should be better to prevent habitation of cockroaches and rodents in closed areas of the drain.

3.8 Water Supply

3.8.1 There shall be an adequate supply of safe and potable water (*see* IS 4251 : 1967). Running water under pressure shall be easily accessible to all rooms and areas in which food is handled and equipment are washed.

3.8.2 The equipment shall be so installed and used that back siphonage of liquid into the potable water lines is precluded.

3.8.3 The storage tanks for water should, unless completely sealed, be kept covered with tight fitting lids, examined regularly and cleaned out at least once every six months. The date of the last cleaning and next cleaning shall be prominently displayed on the storage tanks.

3.8.4 The water shall be periodically examined as desired by the Licensing Authority chemically and bacteriologically. A record of such examinations shall be maintained.

3.8.5 *Auxiliary Water Supply*

Where non-potable water is used — for such purposes as fire control — it must be carried completely in separate lines, identified preferably by colour, and with no cross-connection or back-siphonage with the lines carrying potable water.

4 RAW MATERIAL AND OPERATING HYGIENE

4.1 Raw Material and Preparation

4.1.1 Only sound and wholesome raw material should be used for the quick freezing process. Since quick freezing cannot improve the original quality of the foods being treated, only products at an optimum level of freshness and maturity should be quick frozen. The raw material should not contain decomposed, toxic or extraneous substances.

4.1.2 The selected raw materials should be in prime condition when processing begins. In order to minimize the rate of natural deterioration, when storage prior to processing is a necessary stage in stock holding, all raw materials should be stored for a period dictated by actual trade and material needs, in conditions capable of maintaining a temperature range and degree of relative humidity appropriate to the raw materials concerned.

4.1.3 To minimize microbiological activity, pre-cooked foods intended for quick freezing should not be held in the temperature range of +10°C to 60°C. They should be cooled as rapidly as possible in suitable pre-cooling equipment consistent with requirements of hygienic processing.

4.2 Quick Freezing

4.2.1 After preparation, the product should be quick frozen without delay. The quick freezing process should be carried out in appropriate equipment in such a way so as to minimize physical, biochemical and microbiological changes.

4.2.2 To achieve this, the freezing operation should be carried out in such a way that the range of temperature of maximum crystallization is passed quickly (for most products −1°C to −5°C).

4.2.3 The process should not be regarded as complete unless and until the product temperature has reached −18°C at the thermal centre after thermal stabilization (*see* IS 8077 : 1976).

4.2.4 Effective measures should be taken to keep temperature rise to a minimum, after the quick freezing process and during handling and transport to cold storage.

4.2.5 The recognized practice of repackaging quick frozen products should be carried out only under controlled conditions.

4.3 Storage

4.3.1 Cold stores should be operated so as to maintain a product temperature of −18°C or lower with a minimum of fluctuation.

4.3.2 Excessive product temperature fluctuations either in range or frequency are undesirable. They may lead to serious dehydration in susceptible products and to other forms of quality deterioration. Although temperature fluctuations are generally less harmful at lower storage temparetures, variations greater than 2°C in the air temperature should, so far as possible, be avoided.

4.3.3 Frequent temperature checks should be carried out, preferably with recording thermometers or devices that will continually monitor storage temperatures (*see* IS 8077 : 1976).

4.3.4 The air velocity in cold stores should be moderate and not higher than necessary to achieve sufficiently uniform temperatures within the store.

4.3.5 Products should be stacked so that air circulation is not impaired. No direct contacts with the walls — except in jacketed rooms — ceiling or floor should be allowed. The distance between the stored products and the walls, ceiling or floor should be at least 10 cm.

4.3.6 A system of controlled stock rotation should be employed in the cold stores.

4.4 Transportation and Distribution

4.4.1 The transportation of quick frozen foods from one warehouse cold store to another warehouse cold store should be carried out in equipment capable of maintaining a product temperature of – 18°C or lower. Vehicles should be pre-cooled to + 10°C or lower prior to loading and should be equipped with devices to record temperatures during transportation.

4.4.2 A temperature rise of the product during such transportation from warehouse cold store to – 15°C may be tolerated but any product temperature higher than – 18°C should be brought down to – 18°C as soon as possible either during transportation or immediately after delivery.

4.4.3 Loading and unloading from vehicles and from stores should be as fast as practicable and the methods used should minimize product temperature rise.

4.4.4 During the transportation from one warehouse cold store to another warehouse cold store as indicated in **4.4.1**, frequent temperature checks should be carried out using methods of recording temperatures visible from outside of the vehicle.

4.4.5 Before loading the vehicle as indicated in **4.4.1** and before entering the cold store, the product temperature should be checked.

4.4.6 Transportation of quick frozen foods for local distribution to retailers should be carried out in such a way that any rise in product temperature above – 18°C is kept to a minimum and should not, in any case, rise above – 12°C in the warmest pack.

4.4.7 A temperature rise of the product occurring during local transportation as indicated in **4.4.6** should be brought down to – 18°C, and as soon as possible, after delivering. When this is not possible, the product should be offered for sale as soon as possible.

4.5 Retail Sale

4.5.1 Quick frozen foods should be offered for sale from refrigerated cabinets designed for the purpose.

4.5.2 The cabinets should be capable of maintaining and be so operated as to maintain a product temperature of – 18°C and should be equipped with a thermometer.

4.5.3 A rise in product temperature may be tolerated for short periods but the product temperature of the warmest pack should not be allowed to become higher than – 12°C.

4.5.4 Warm air currents from the outside should not blow directly into the refrigerated space. Cabinets should be located so that the open display area is not subjected to a normal radiant heat (for example, not in direct sunlight, under strong artificial light or in direct line with heaters). Cabinets should be covered at night and over the week end. Defrosting cycles should be programmed in such a way that, as much as possible, defrosting takes place outside the normal shopping hours.

4.5.5 The contents of the cabinet should never be stocked outside the load line. Stocks should not be removed from and returned to the cabinet except when absolutely necessary.

4.5.6 Unpacked products are subject to the risk of contamination and dehydration and should be stored and displayed in compartments separate from those used for packaged quick frozen foods.

4.5.7 Foods which are not quick frozen should not be placed in a cabinet which contains quick frozen foods. Prepackaged edible ices may, however, be kept in cabinets containing quick frozen foods.

4.5.8 Stocks should be carefully rotated to ensure that the products are sold on a "First In First Out" basis.

4.6 Packaging and Labelling

4.6.1 The packaging material should be stored in a clean and sanitary manner. The packaging should be designed to:

a) protect the organoleptic and other quality characteristics of the product;

b) protect the product against microbiological and other contamination;

c) protect, as far as practicable, against dehydration, heat accumulation by radiation and where appropriate, leakage; and

d) not pass on to the product any odour, taste, colour or other foreign characteristics, throughout the processing (where applicable and distribution of the product up to the time of final sale.

4.6.2 Retail packages should be preserved intact up to the time of final sale.

4.6.3 In addition, the packages of quick frozen foods should bear clear indications as to the way to keep them from the time they are bought at the retailer to that of their use.

5 GENERAL HYGIENE

5.1 For general cleanliness, all the floors shall be swept and washed with detergent at least once in a shift.

5.2 Waste and rubbish shall be collected in covered receptacles and shall not be allowed to scatter on the floor of the unit. It shall be disposed of in a manner which is not detrimental to the hygiene of the surroundings after its disposal.

5.3 Adequate measures shall be taken to prevent mould growth on equipment and internal structures of processing and storage rooms.

5.4 Adequate steps shall be taken to prevent infestation by cockroaches and other household pests. Wherever possible, suitable electrically operated flying insect control devices consisting of electrified grid and collection tray for collecting dead insects should be provided. These devices may be installed at strategic points in the premises, specially near entry point. Air curtain may also be provided.

5.5 When pesticides are used, due care shall be exercised to prevent contamination of equipment, raw materials and packaging materials. Under no circumstances shall any pesticides be used during processing.

5.6 Floors and drains shall be kept clean. The drains shall be made *pucca* with proper slope and be swept and washed periodically in order to keep them free from any deposits. The deposits provide suitable substrate for fast growth of the microorganisms.

5.7 There shall be an adequate supply of safe and potable water. The storage tank for water shall, unless completely sealed, be kept covered with tight fitting lids, examined and cleaned regularly.

5.8 Proper places shall be provided for storage of brooms, brushes, buckets and other cleaning gear.

5.9 Window glass and light fittings shall be maintained clean and dust-free at all times.

5.10 There shall be no cobwebs in any part of the unit. Birds and domestic animals shall not be allowed in any part of the unit.

5.11 No lavatory, sink, cesspool or garbage shall be so suited or maintained that odours or fumes therefrom pervade any room where the product or raw materials are prepared or stored.

5.12 The doors and windows shall be such that they would not allow entry of flies or any other type of crawling insects and birds.

5.13 The factory effluents shall be disposed of from the factory in a manner which is not detrimental to the hygiene of the factory and its surroundings. The effluents shall not be let off on road or in the open outside the factory premises.

6 PLANT AND EQUIPMENT HYGIENE

6.1 Material for Equipment

6.1.1 All surfaces coming in contact with the food product shall be smooth, free from pits, crevices and loose scales and shall be non-absorbent. Besides, surfaces shall be non-toxic and unaffected by food products and the cleaning chemicals.

6.1.2 Stainless steel shall be used at all the places as material for construction where it comes in contact with the food products.

6.1.3 Copper and its alloys, cadmium and lead shall not be used where they may come in contact with any food products.

6.1.4 Plastics, wherever used, shall be abrasion-resistant, heat resistant to the degree needed for the product and for the cleaning process, and shatter-proof, and shall not contain free phenol, formaldehyde, or a constituent which may result in the migration of any of the substances to the food or otherwise affect the characteristics of the food with which it comes in contact.

6.1.5 All gasketing and packing materials shall be non-porous, non-absorbent, and fitted in a manner such as to prevent their protruding into the product or creating recesses or ledges between the gasketed joints which will interfere with proper cleaning.

6.1.6 Wherever food normally comes in contact with the equipment surfaces, coatings used as a lining to prevent corrosion of the base material of food equipment shall be non-toxic, unaffected by and inert to the food in contact with it or cleaning preparations used on it. Furthermore, such coatings shall be non-absorbent, odourless and tasteless.

6.2 Installation of Equipment

6.2.1 All equipment shall be installed on a foundation of durable, easily cleanable material.

6.2.2 Equipment shall be placed at least 45 cm from walls and ceiling or sealed water-tight thereto. All portions of the equipment shall be installed sufficiently spaced above the floor on a minimum number of supporting members to provide access for inspection and cleaning or be installed completely sealed (water-tight) to the floor.

6.2.3 Whenever equipment passes through walls or floors, it shall be sealed thereto or sufficient clearance shall be allowed to permit inspection, cleaning and maintenance.

6.2.4 Where necessary, drains and catch pans shall be provided. These shall be of such dimensions as to collect all spill and drip and be readily accessible or readily removable for cleaning.

6.2.5 Where pipes pass through ceilings, in the floor above of processing areas, pipe sleeves shall be inserted in the floor above so that their periphery is at least 5 cm above the floor.

6.2.6 Pipelines for conveying the product from one point to the other should be direct and as short as possible and without any dead ends so that they may be cleaned internally by flushing with water. Valves and taps in the line should be of removable type and should have full way opening to avoid formation of small pockets of stagnant food.

6.2.7 The equipment should be constructed and installed in such a manner as to facilitate efficient cleaning and sanitization and easy dismantling and assembling of all the parts that come in contact with the product. All the equipment, containers, lids and pipes shall be smooth, impervious and corrosion resistant. All the materials used for construction of those surfaces which come into contact with the product shall be non-toxic.

6.2.8 All the electrical connections, such as switch boxes, control boxes, conduit cables shall be installed in such a way as to facilitate proper cleaning. All equipment coming into contact with raw materials or the products shall be kept clean.

6.2.9 All refrigerated spaces should be equipped with temperature measurement or recording devices. These devices should be clearly visible and placed in such a way as to register as accurately as possible the maximum temperature of the refrigerated areas.

6.3 Cleaning and Sanitation

6.3.1 All the processing systems shall be thoroughly cleaned with chlorinated water (at least 50-100 ppm available chlorine depending up to the type of food processed) after every processing run to remove the micro-organisms, if any and followed by washing with potable water to remove the residual chlorine in the system.

6.3.2 All the containers and lids should be cleaned thoroughly with the use of sodium carbonate or sodium bicarbonate or any other suitable detergent solution and sanitized with at least 50-100 ppm chlorine solution, depending upon the type of food processed, prior to their use. The residual chlorine may be removed by flushing the equipment with potable water before use.

6.3.3 Tables and work benches used for cutting and packing of food should have stainless steel or aluminium alloy or marble tops. The table and work benches top shall always be maintained in good condition and cleaned thoroughly before and after use.

7 HYGIENE CONTROL PROCEDURE

7.1 Sanitation Control Programme

It is desirable that each plant designates a single individual, whose duties are preferably different from production, to be held responsible for the cleanliness of the plant. His staff should be a permanent part of the organisation and should be well trained in the use of special cleaning tools, methods of disassembling equipment for cleaning, and in the significance of contamination and the hazards involved. Critical areas, equipment and materials should be designated for specific attention as part of a permanent sanitation schedule.

7.2 Laboratory Control Procedures

In addition to any control by the official agency having jurisdiction, it is desirable that each plant in its own interest should have access to laboratory control of the sanitaty quality of the products processed. The amount and type of such control will vary with the food product as well as the needs of management. Such control should reject all foods that are unfit for human consumption. Analytical procedures used should follow recognized or standard methods in order that the results may be readily interpreted.

8 EMPLOYEE HYGIENE

8.1 Every person employed for handling of raw materials and end-products and in packing section in the factory shall be medically examined by an authorised registered medical practitioner and the examination shall include X-ray of the chest for tuberculosis. The examination shall also include: examination of stool for protozoal and helminthic infestation for those parasites which are transmitted by ingestion, and for the presence of *Salmonella, Shigella* species and *Vibro cholerae.* Subsequently, the employees shall be medically examined once in a year or more frequently; if necessary, to ensure that he/she is medically fit and free from communicable diseases. A record of such examinations shall be maintained.

8.1.1 It shall be impressed on all employees that they should notify the medical officer or management, cases of fever, vomiting, diarrhoea, typhoid, dysentery, boils, cuts and sores and ulcers (however small), discharging ears and notifiable diseases occurring in their own homes and families.

8.1.2 No worker who is suspected to be suffering from any of the disorders listed above shall be permitted to work inside the unit. The supervisor shall check the personal hygiene of the workers before the start of work and whenever they enter any processing room after any absence.

8.2 Employees shall keep their finger nails short and clean and wash their hands with soap or detergent and water before commencing work and after each absence, specially after using sanitary conveniences. Towels used for drying hands should be clean. No worker shall allow his hands or any part of his body or clothing to come in contact with the food. He/she should adopt strict hygienic practices so as to avoid adding any microbial contamination to the material. Women employees shall keep their hair tied into a knot under a head gear.

8.3 All employees shall be inoculated and vaccinated against the enteric groups of diseases once a year. In case of an epidemic, all workers shall be inoculated. A record shall be maintained.

8.4 Employees shall be provided with clean uniforms (preferably white) or aprons or both, mouth mask and clean washable caps, where necessary.

8.4.1 Separate room or place for changing the clothes shall be provided. The clothes shall not be hung in any processing room.

8.5 Eating, spitting, nose cleaning or the use of tobacco in any form or chewing betel leaves shall be prohibited within the manufacturing, packing and storage area of the unit. Notice to this effect shall be prominently displayed and enforced.

8.6 Sufficient and suitable sanitary conveniences shall be provided, maintained and kept clean in every factory. The conveniences shall be properly lighted. Separate conveniences shall be provided for each sex. No convenience shall open directly into any work room in the factory. The conveniences shall always be maintained clean and in good repair.

8.7 Sufficient number of wash basins with adequate provision of nail brushes, soap and towels, shall be installed in or alongside the sanitary conveniences.

9 CHECK LIST FOR HYGIENE AND SANITATION

9.1 A check list for use by a responsible officer of the management is given in Annex B. It should be used at regular intervals, to ensure hygienic, sanitation and safety conditions.

ANNEX A

(*Clause* 2)

LIST OF REFERRED INDIAN STANDARDS

IS No.	*Title*
3103 : 1975	Code of practice for industrial ventilation (*first revision*)
3646 (Part 1) : 1992	Code of practice for interior illumination: Part 1 General requirements and recommendations for working interiors (*first revision*)
3646 (Part 2) : 1966	Code of practice for interior illumination: Part 2 Schedule of illumination and glare index
3646 (Part 3) : 1968	Code of practice for interior illumination: Part 3 Calculation of coefficient of utilization by the BZ methods
4251 : 1967	Quality tolerance for water for processed food industry
8077 : 1976	Procedure for checking temperature of quick frozen foods

ANNEX B

(*Clause* 9.1)

CHECK LIST FOR HYGIENIC PRACTICES FOR PROCESSING AND HANDLING OF QUICK FROZEN FOODS

B-1 SITE

B-1.1 Are there any sources producing obnoxious fumes, smoke, odours or excessive dust nearby? Yes/No

B-1.2 Any cattle sheds/garbage dumps/ tannery and open sewage drains nearby? Yes/No

B-2 BUILDING

B-2.1 Is the structure of permanent nature and of suitable size to house the entire infrastructure? Yes/No

B-2.2 Is the building rodent-proof, fly-proof and bird-proof? Yes/No

B-2.3 Is any part of the building being used for domestic purposes/food preparations without proper partitions? Yes/No

B-2.4 Are the premises adequately lighted and ventilated? Yes/No

B-2.5 Are the floors smooth and clean and being maintained properly without any breakages/ crevices? Yes/No

B-2.6 Are the roofs/ ceilings free of water leakage? Yes/No

B-2.7 Are the doors/ windows having proper netting/mesh? Yes/No

B-2.8 Are scheduled repairs, white washing, disinfection being carried out regularly? Yes/No

B-2.9 Are the lights shielded to prevent broken glasses contaminating the product? Yes/No

B-2.10 Is the drainage system satisfactory? Yes/No

B-2.11 Is effluent treatment plant functioning properly? Yes/No

B-3 RAW MATERIAL AND OPERATIONS

B-3.1 Is the plant using only sound and wholesome raw material? Yes/No

B-3.2 Is appropriate temperature and humidity maintained for storage of raw material as per product requirement? Yes/No

B-3.3 Is the precooked food being held at temperature range of +10°C to 60°C for any reason? Yes/No

B-3.4 Is the product being quick frozen without delay. Is the temperature range of −1° to −5°C passed quickly? Yes/No

B-3.5 Is the final product temperature maintained at lower than −18°C? Yes/No

B-3.6 Is the cold store temperature always less than −18°C? Yes/No

B-3.7 Are proper temperature records or graphs maintained? Yes/No

B-3.8 Are the products stacked properly to allow air circulation? Yes/No

B-3.9 Is the quick frozen food transported from one warehouse to another at temperatures below −18°C? Yes/No

B-3.10 Does the temperature of product, any time during transportation, rise beyond −15°C? Is it brought down below -18°C quickly if it has to be stored for long time? Yes/No

B-3.11 Is the product sold immediately if its temperature has risen beyond −12°C? Yes/No

B-3.12 Is the product sold from refrigerated cabinet capable of maintaining −18°C temperature? Yes/No

B-3.13 Are these cabinets equipped with a proper thermometer for proper reading and recording? Yes/No

B-3.14 Are the contents in the cabinets stored below load line? Yes/No

B-3.15 Are unpacked items stored in separate compartments? Yes/No

B-3.16 Are any other items, not related with quick frozen foods, stored in the cabinets? Yes/No

B-3.17 Are the stocks rotated on first in first out basis? Yes/No

B-4 GENERAL HYGIENE

B-4.1 Are the floors swept/washed with detergent at least once a shift? Yes/No

B-4.2 Is the waste and rubbish kept in covered receptacles and disposed off regularly? Yes/No

B-4.3 Is there any mould growth on the equipment? Yes/No

B-4.4 Is there any mould growth on the internal structures of processing and storage rooms? Yes/No

B-4.5 Are the premises kept free from cockroaches and other household pests and rodents? Yes/No

B-4.6 Are the drains cleaned regularly? Yes/No

B-4.7 Is there adequate supply of potable water? Yes/No

B-4.8 Is the potable water stored in proper containers? Yes/No

B-4.9 Are the doors and windows properly protected to prevent the entry of flies, birds and domestic animals? Yes/No

B-4.10 Are the table tops cleaned thoroughly before and after use? Yes/No

B-5 PLANT AND EQUIPMENT

B-5.1 Is stainless steel used for construction of parts coming in contact with food? Yes/No

B-5.2 Are the tables and work benches used for cutting and packing food having stainless steel or aluminium alloy or marble tops? Yes/No

B-5.3 Are the equipment surfaces or protective coatings of equipment coming in contact with food smooth, free from pits and crevices, non-toxic and non-absorbent? Yes/No

B-5.4 Are plastics, if used, abrasion and heat resistant and of food grade? Yes/No

B-5.5 Are all the gaskets and packing material of non-porous material and are easily cleanable? Yes/No

B-5.6 Is the equipment placed at least 45 cm from walls and ceiling or sealed water-tight thereto? Yes/No

B-5.7 In cases where equipment passes through walls or floors, is it sealed thereto or sufficient clearance is allowed to permit inspection, cleaning and maintenance? Yes/No

B-5.8 Are drains and catch pans provided? Yes/No

B-5.9 Is the entire processing system including pipelines, vessels, tanks, filling, sealing and other machinery being cleaned and sanitized immediately after use? Yes/No

B-5.10 Are all the refrigerated spaces equipped with accurate temperature measuring or recording devices? Yes/No

B-5.11 Is entire processing system cleaned prior to its re-use again by chlorinated water of at least 50-100 ppm available chlorine? Yes/No

B-5.12 Are all the parts of equipment coming into contact with food sanitized before use? Yes/No

B-5.13 Is sufficient potable water available for flushing the equipment after sanitization with chlorine water and further use during processing? Yes/No

B-5.14 Are the storage tanks for water properly covered? Yes/No

B-5.15 Is the water being analysed for its potability and record of such analysis being maintained? Yes/No

B-6 CONTROL AND MONITORING PROCEDURES

B-6.1 Is there a defined sanitation schedule? Is it being followed? Yes/No

B-6.2 Is the responsibility for cleanliness vested in a specifically trained person with supporting staff? Yes/No

B-6.3 Is there laboratory control of the sanitary quality of the products processed? Yes/No

B-6.4 Are there defined analytical procedures for rejection of products that are unfit for human consumption? Yes/No

B-7 EMPLOYEE HYGIENE

B-7.1 Are the employees being subjected to complete examination by authorised Registered Medical Practitioner at least once a year? Yes/No

B-7.2 Is record of medical examination of employees maintained? Yes/No

B-7.3 Are cases of fever, vomiting, diarrhoea, typhoid, dysentery, boils, cuts, sores, ulcers or any other notifiable diseases reported by the employees? Yes/No

B-7.4 Are any of the employees suffering from any of the above disorders allowed to work inside the unit? Yes/No

B-7.5 Are the employees inocculated and vaccinated against the enteric group of diseases once a year and record maintained thereof? Yes/No

B-7.6 Are the employees keeping finger nails short and clean? Yes/No

B-7.7 Are the employees washing their hands with soap or detergent, especially after using sanitary conveniences? Yes/No

B-7.8 Is any employee chewing tobacco, smoking, eating or drinking in manufacturing, packing and storage area? Yes/No

B-7.9 Are the employees wearing washed and clean uniforms? Yes/No

B-7.10 Are the employees wearing head gears. Are the female employees keeping their hair tied under the head gear? Yes/No

B-7.11 Are sufficient number of sanitary conveniences and wash basins, etc, provided for the employees? Yes/No

B-7.12 Is there adequate water supply, soaps/detergents available for sanitary conveniences? Yes/No

B-7.13 Are there adequate provisions for drying hands after washing? Yes/No

B-7.14 Are the floors and wash basins of toilet and comfort room being thoroughly cleaned? Yes/No

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